

Work Order ID 86644

86644

Page 1

July-06-12 11:10:46 AM

Item ID: D3298-007 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Tube Assembly
 Start Date: 7/13/12 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 7/13/12 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: Date: 12-07-12 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3298	B								

100 Small Fab 0.00
100
 Small Fab Memo 0.00
 Small Fab Bend tube as per template D3298-007T1 & Dwg D3298Flare end as per Dwg D3298. Ensure that sleeves and coupling are installed first
 4 0 FF 12-07-20

110 QC5- Inspect part completeness to step on W/O 0.00
110
 QC Memo 0.00
 Quality Control
 DAS 16 9-89 7/17/12 (14)

120 Identify as per dwg & Stock Location: ST 192 0.00
120
 Packaging Memo 0.00
 Packaging
 4X 80 12-7-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 86644***86644***

Page 2

July-06-12 11:10:46 AM

Item ID: D3298-007 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Tube Assembly
Start Date: 7/13/12 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 7/13/12 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC21- Final Inspection - Work Order Release	0.00							
130									
QC	Memo	0.00							
Quality Control									

MLJ 12/07/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-06-12 11:10:45 AM

Page 1
T

Work Order ID: 86644

Parent Item: D3298-007

Parent Item Name: Tube Assembly

Start Date: 7/13/12

Required Date: 7/13/12

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP A04.09.02New issueKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN818-6D Nut		Purchased	No			100	Each	21.0000	2	8			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST325	122378	14				8			
					120769	10							
					121524	4							
				ST326		7							
					119438	7							
M6061T6T0.375W.035 6061-T6 RD Tube .375 x.035W		Purchased	No			100	f	146.0082	0.6666	2.8067368			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT014		146.0082							
					112652	146.0082				2.8067			
MS20819-6D Sleeve		Purchased	No			100	Each	9.0000	2	8			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST323	122452	9				8			
					120693	9							

(4) FF 12-07-20

(4) FF 12-07-20

(4) FF 12-07-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM NO.	QTY	P/N	DESCRIPTION
1	X	D3298-001	TUBE ASSEMBLY
2	2	MS20819-6D	SLEEVE
3	2	AN818-6D	NUT

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *76644*

PL1207-4

RELEASED
2010-01-14
mp

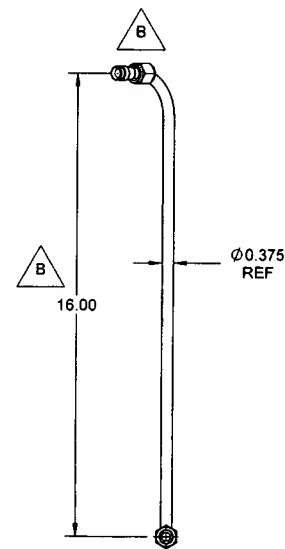
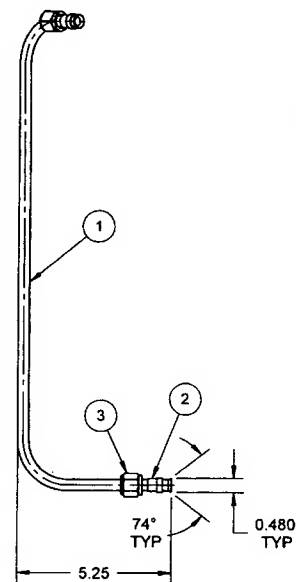
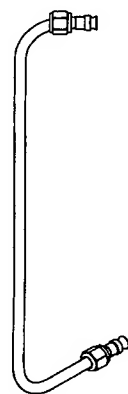
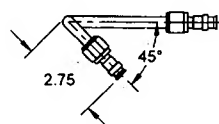
D3298-001 TUBE ASSEMBLY

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-001" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.11 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-001T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10 ENSURE SEAMLESS TUBING IS USED

B	DRAWING UPDATED TO CURRENT STANDARDS. 16.00 WAS 15.75 (ZN C3-1, C4-2) & CORRECT VIEW (ZN D4-2); PER CAR 09-004	RF	09.12.30
A	NEW ISSUE	RF	04.07.06
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>JE</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>JE</i>	D3298	SHEET 1 OF 8
APPROVED	<i>AD</i>	TITLE	SCALE
DE APPR.	<i>AD</i>	TUBE ASSEMBLIES	NTS
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ITEM	QTY -003	P/N	DESCRIPTION
1	X	D3298-003	TUBE ASSEMBLY
2	2	MS20819-6D	SLEEVE
3	2	AN818-6D	NUT



86644

D3298-003 TUBE ASSEMBLY

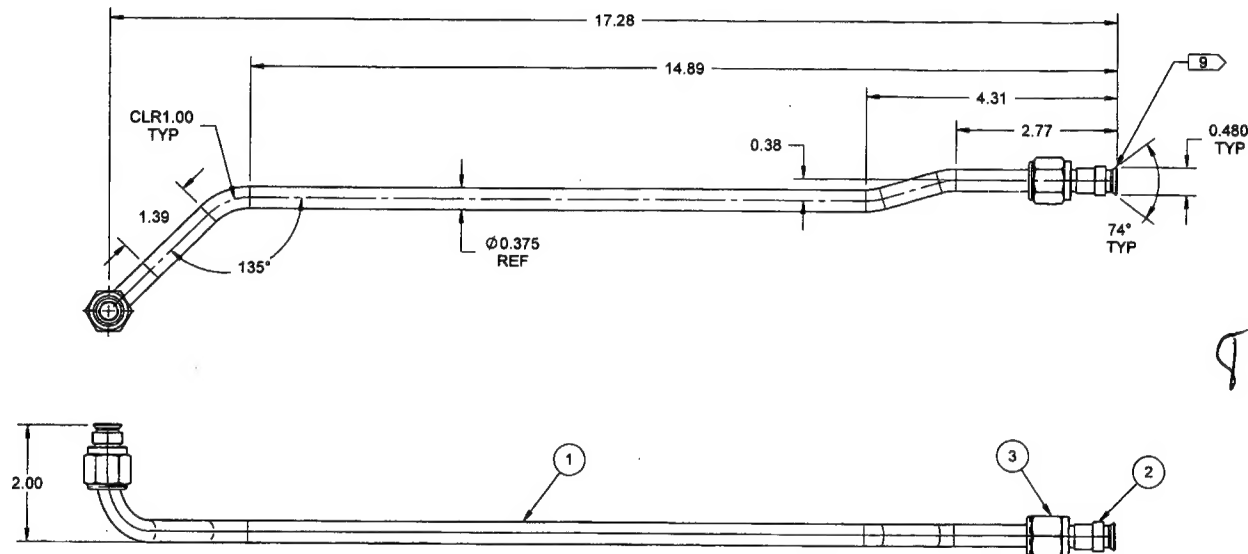
RELEASED
2010-01-14
mp

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER VVV-T-700/6
REF DART SPEC M6061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-003" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.11 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-003T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10 ENSURE SEAMLESS TUBING IS USED

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CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D3298	SHEET 2 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	TUBE ASSEMBLIES	NTS
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ITEM	QTY -005	P/N	DESCRIPTION
1	X	D3298-005	TUBE ASSEMBLY
2	2	MS20819-6D	SLEEVE
3	2	AN818-6D	NUT



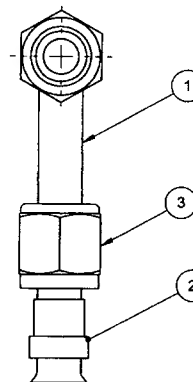
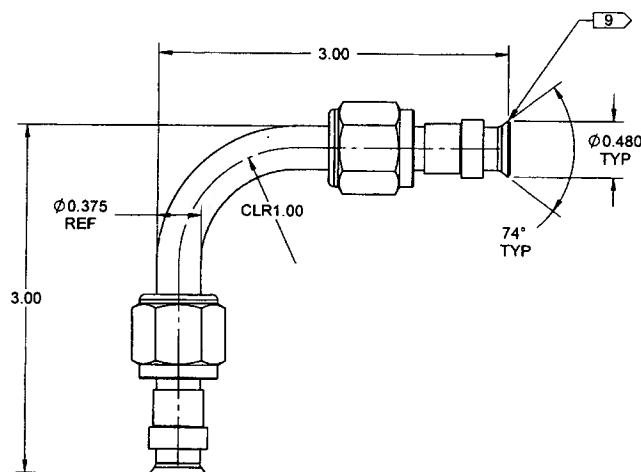
D3298-005 TUBE ASSEMBLY

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER WW-T-700/6
REF DART SPEC M8061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-005" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.06 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-005T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10) ENSURE SEAMLESS TUBING IS USED

RELEASED
2010-01-14
MB

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CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3298	SHEET 3 OF 8
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	TUBE ASSEMBLIES	NTS
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86644

RELEASED
2010-01-14

1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.375W.035

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-007" USING FINE POINT PERMANENT INK MARKER

7) WEIGHT: 0.05 lbs

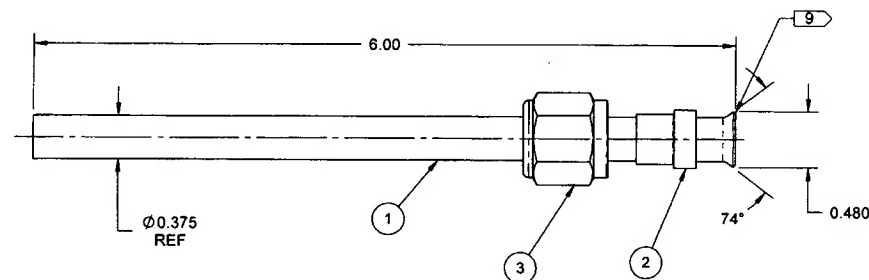
8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-007T1

9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL

10 ENSURE SEAMLESS TUBING IS USED

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DRAWN	RF		SHEET 4 OF 4
CHECKED	RF		SCALE
MFG. APPR.	RF		NTS
APPROVED	RF		
DE APPR.	RF		
DATE	09.12.30		

ITEM	QTY -009	P/N	DESCRIPTION
1	X	D3298-009	TUBE ASSEMBLY
2	1	MS20819-6D	SLEEVE
3	1	AN818-6D	NUT



D3298-009 TUBE ASSEMBLY

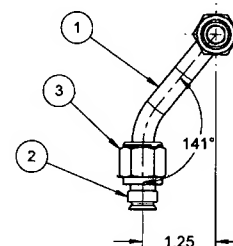
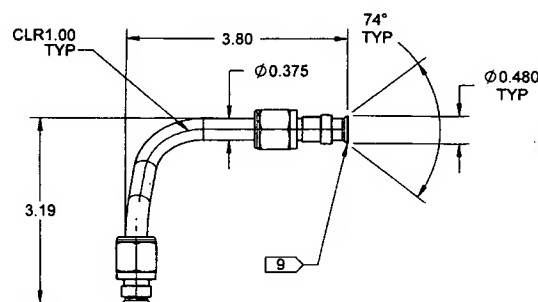
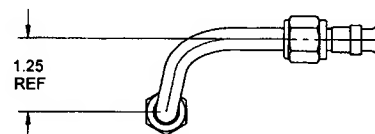
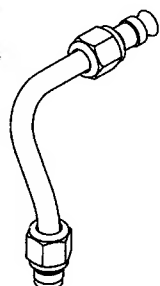
NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-009" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.04 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-009T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS
- 10) ENSURE SEAMLESS TUBING IS USED

RELEASED
2010-01-18
MD

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. D3298	REV. B
MFG. APPR.	<i>[Signature]</i>	TITLE	SHEET 5 OF 8
APPROVED	<i>[Signature]</i>	TUBE ASSEMBLIES	SCALE
DE APPR.	<i>[Signature]</i>		NTS
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ITEM	QTY -011	P/N	DESCRIPTION
1	X	D3298-011	TUBE ASSEMBLY
2	2	MS20819-6D	SLEEVE
3	2	AN818-6D	NUT



86644

D3298-011 TUBE ASSEMBLY

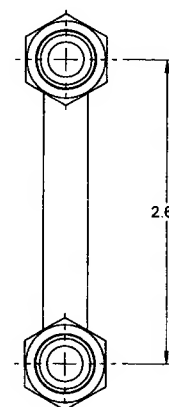
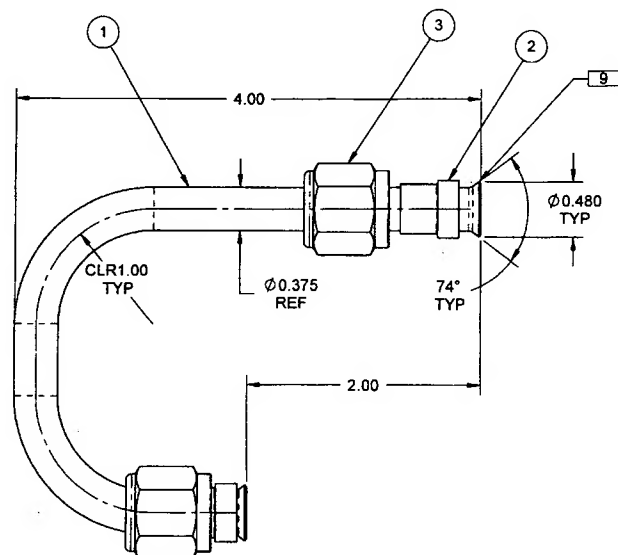
NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-011" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.06 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-011T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10 ENSURE SEAMLESS TUBING IS USED

RELEASED
2010-01-14

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D3298	SHEET 6 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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ITEM	QTY -013	P/N	DESCRIPTION
1	X	D3298-013	TUBE ASSEMBLY
2	2	MS20819-6D	SLEEVE
3	2	AN818-6D	NUT



86644

D3298-013 TUBE ASSEMBLY

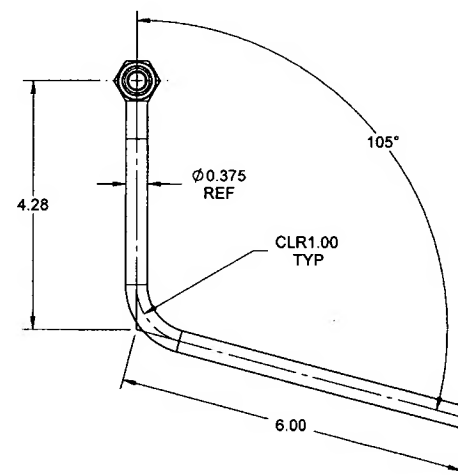
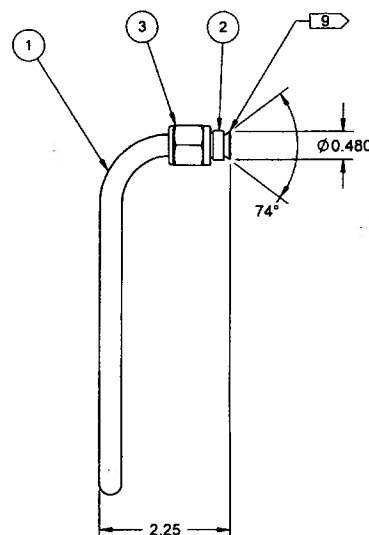
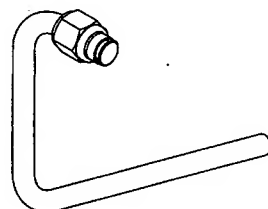
RELEASED
2010-01-24

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER VVV-T-700/6
REF DART SPEC M6061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-013" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.06 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-013T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10) ENSURE SEAMLESS TUBING IS USED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. D3298	REV. B
MFG. APPR.	<i>[Signature]</i>	SHEET 7 OF 8	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	TUBE ASSEMBLIES	NTS
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ITEM	QTY -015	P/N	DESCRIPTION
1	X	D3298-015	TUBE ASSEMBLY
2	1	MS20819-6D	SLEEVE
3	1	AN818-6D	NUT



8/6/44

D3298-015 TUBE ASSEMBLY

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.375 O.D. x 0.035 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.375W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3298-015" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.06 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D3298-015T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS
- 10) ENSURE SEAMLESS TUBING IS USED

RELEASED
2018-01-14
JP

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D3298	SHEET 8 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	TUBE ASSEMBLIES	NTS
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